

Members Report #20-2022

To: Members, Maitland Valley Conservation Authority
From: Stewart Lockie, Conservation Areas Coordinator;
Phil Beard, General Manager Secretary Treasurer
Date: February 24, 2022
Subject: 2022 Carbon Reduction & Sequestration Priorities

Purpose:

To outline the progress that MVCA has made to reduce our use of fossil fuels and to sequester carbon through naturalizing conservation area lands.

To outline the proposed 2022 MVCA carbon reduction and sequestration strategy.

2021 Carbon footprint strategy progress report

In 2020, the Authorities carbon footprint strategy was revised to reflect recent research on CO₂ emission reduction and sequestration strategies. Scientists recommended a two-pronged approach which included the elimination of burning fossil fuels as quickly as possible in order to stabilize the climate and to restore natural areas and increase soil carbon in agricultural lands and forests.

The Authority adopted the following strategy to meet this recommendation:

1. Reduce fossil fuel use by converting to electric vehicles and equipment when suitable technology is available at an affordable price. Fuel efficient vehicles and equipment will be considered if suitable electric options are not affordable or available at the time of replacement.
2. Ensure good forestry management practices are undertaken in our existing woodlands and reforest or naturalize marginal farmland and other areas within conservation areas to sequester carbon and restore biodiversity.

Each year, the Authority monitors fuel and electricity use in all aspects of our operations to calculate how many tonnes of CO2 were emitted. Results for 2021 are listed below:

Product	Quantity	Emission Factor	Tonnes CO2
Gasoline	10,964 Litres	2.3	25.22
Diesel	285 Litres	2.68	0.77
Propane	2,469 Litres	1.52	3.75
Electricity	253,589 kWh	0.031	7.86
Members & staff mileage	3,651 km	2.3	1.06
TOTAL Tonnes CO2			38.66

The following chart shows a comparison of yearly authority CO2 emissions. 2016 was used as a baseline when all fuel and electricity quantities were accounted for.

Year	Total Tonnes CO2	Yearly Difference
2016	52.22	
2017	49.61	-2.61
2018	46.42	-3.19
2019	41.64	-4.78
2020	32.70	-8.94
2021	38.66	+5.96

In 2021, the authorities CO2 emissions were higher than in 2020. This was mainly due to a large increase in usage at the Fall Reserve Conservation Area, which required increased electricity, propane, and fuel use to meet the needs of the users. The significant reduction of CO2 in 2020 was mainly due to operational restrictions in place from the Covid19 pandemic, which reduced vehicle and propane usage in authority operations.

Carbon Footprint Reduction and Sequestration Initiatives completed in 2021.

- Planted 220 tree seedlings at Lake Wawanosh Conservation Area
- Planted 210 large stock trees and 75 shrubs in various Conservation Areas. Planted 1.9 acres of “low maintenance” turf grass and 1.5 acres of native wildflowers at Gorrie C.A
- Promoted driving electric vehicles and the most fuel-efficient vehicle for the task required.
- Started forest management at Wawanosh Valley Conservation Area. Completed marking of woodlot using a registered professional forester’s selective harvest prescription. Prescription focused on removal of dead and diseased trees along which allowed more light for the hardwood trees and shrubs to take their place.

Maitland Conservation Carbon Footprint Reduction and Sequestration Priorities for 2022

The Maitland Conservation's strategy continues to focus on the reduction of fossil fuel use that will lead to the elimination of CO2 emissions by Authority operations in the future. It also recognizes that we need to restore natural areas on conservation authority lands that are not presently in natural cover except for lands used for roads and buildings.

Carbon Footprint Reduction Strategy and 2022 Initiatives

Reduce fossil fuel use by converting to electric vehicles and equipment when suitable technology is available at an affordable price. Fuel efficient vehicles and equipment will be considered if suitable electric options are not affordable or available at the time of replacement.

- Purchase a fuel-efficient vehicle to replace the 2013 Toyota Tacoma. This decision was based on the fact there are no suitable mid-size electric trucks available. Vehicle was ordered in 2021 with an expected delivery in 2022
- Purchase a fuel efficient UTV. This decision is based on the fact there are no suitable electric UTVs available in 2022 at an affordable price.
- Promote employees to use the most fuel-efficient vehicle for the task required.
- Replace lighting to LED technology when replacement is required.

Carbon Sequestration Strategy and 2022 Initiatives

Ensure good forestry management practices are undertaken in our existing woodlands and reforest or naturalize marginal farmland and other areas within conservation areas to sequester carbon and restore biodiversity.

- Identify where natural vegetation can be planted in our Conservation Areas.
- Plant 330 tree seedlings at Saratoga Swamp Tract to continue the naturalization of marginal farmland
- Plant 315 largestock trees and shrubs, 375 seedlings and 95 potted wildflowers at the Gorrie Conservation area restoration project to expand naturalized areas.
- Complete forest harvesting at Wawanosh Valley CA following a registered professional forester's prescription.
- Develop naturalization plan for Wawanosh Valley Conservation Area for future planting of marginal agricultural land.

Recommendation:

THAT MVCA's carbon footprint progress report and 2022 strategic actions be approved as outlined in Report #20-2022.